

Chapter-5

METHODS

5.1 PARTICIPANTS:

5.1.1 SAMPLE SIZE - Considering the previous studies, an effect size of 0.82 (Cohen's d) and statistical power of 0.924 were obtained through calculations. Using these values along with statistical significance of 0.05 (p-value), Sample size was calculated and obtained as 200.

Total of 240 employees participated in the study, out of which 120 belonged to 'experimental Yoga group' and 120 belonged to 'waitlisted Control group'.

5.1.2 SELECTION AND SOURCE OF PARTICIPANTS

Both male and female employees of 20 to 45 years of age group were selected

The sampling technique used in this research is random sampling. Employees working for Vee-Technologies private Ltd., a BPO organisation at Bengaluru, India were selected randomly for the study. Subjects of the present study were employees from different departments of the organization like finance, HRM, production etc.

5.1.3 INCLUSION CRITERIA

- a) Employees of almost similar nature of job and who were willing to participate in the study.
- b) Employees working in the organisation with minimum of one year and maximum of 10 years of service in the said organisation were included.
- c) Employees who are on desk job (working on the computer) were only included

5.1.4 EXCLUSION CRITERIA

Following employees were excluded from the study:

- a) Those who had health and fitness conditions which restricted them from doing SMET practices.
- b) Pregnant women
- c) Employees who were practicing yoga or gym during the study period
- d) Employees who were on probation and on notice period will be excluded

5.1.5 ETHICAL CONSIDERATION

Consent: The written and signed consent forms from the subjects and also the approval for the study from the organisation were obtained.

Also stipulated guidelines and compliances of university for carrying out the research study were met.

Approval of IEC was obtained.

- ▶ Consent form – were signed by all participating employees voluntarily.
- ▶ Freedom to withdraw from the study was explicitly made.
- ▶ SMET program was conducted in batches in a spacious room with good ventilation; before lunch time.
- ▶ Room was carpetted or yoga mats were also provided.
- ▶ Ladies were asked to wear leggings and were allowed to relax during menstrual periods.
- ▶ No financial implications or liabilities.
- ▶ Sessions were conducted during working hours and the employees were not asked to compensate those hours for working.
- ▶ Confidentiality of the data has been maintained.
- ▶ Religious orientation: Minimum.
- ▶ Yoga techniques used were simple and suited for all employees.
- ▶ At the same time, if they were unable to participate due to health issues in any of the sessions, they could relax and just watch.
- ▶ Method of investigation - Non-invasive; only administration of questionnaires.
- ▶ Time taken for investigations and frequency of repeatation: 3 months study period.
- ▶ Who will do the investigations: Questionnaire administration was done by a psychologist and the research scholar.

Ensuring safety of an individual;

- ▶ No known risks of yoga practice or in administering the questionnaires.
- ▶ Any injury or complications - referred to company authorities; no liabilities of any kind would be borne.

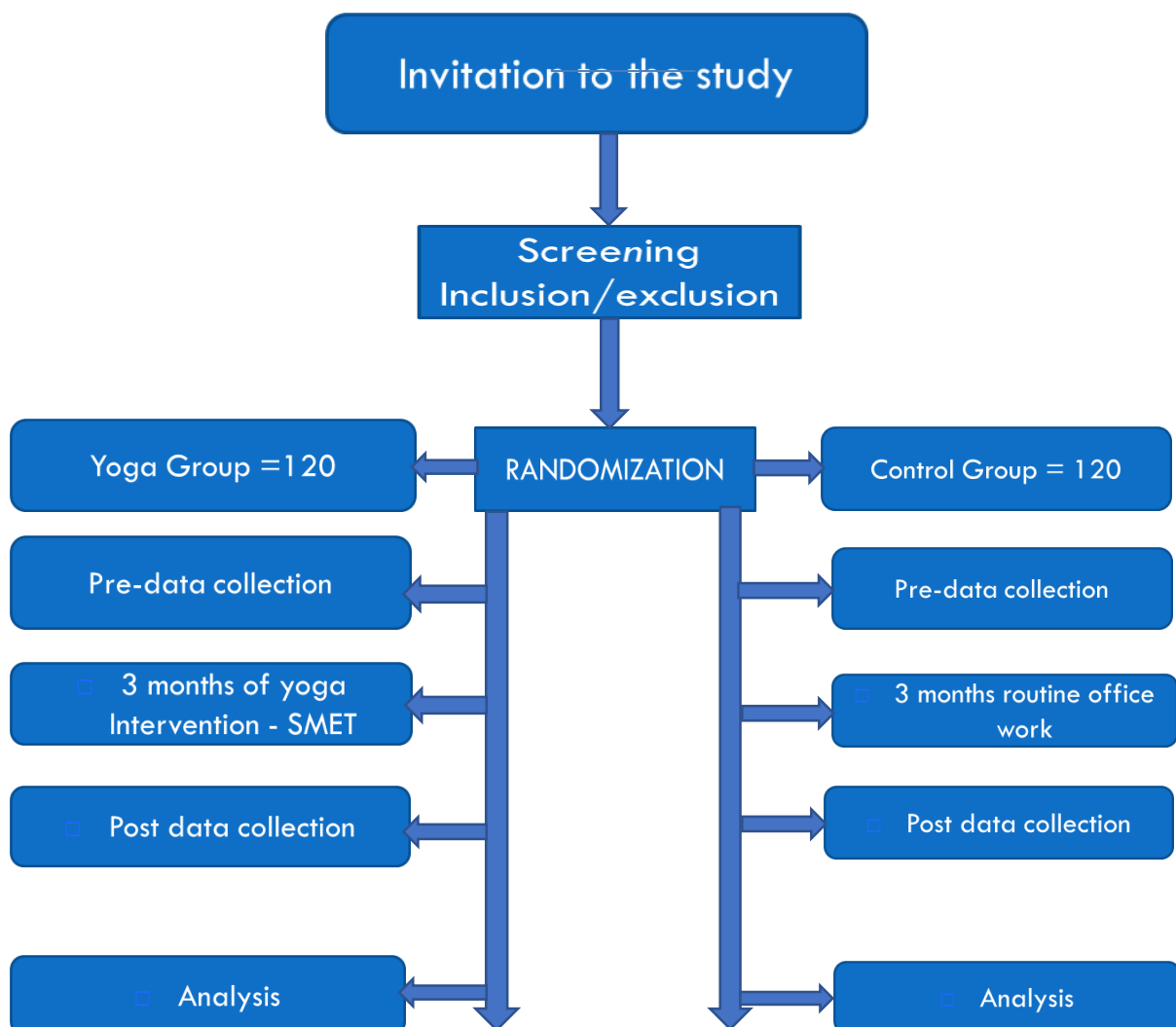
- ▶ First-aid trained Instructor would handle any pains or injuries and kit was available in the organisation

Conflict of Interest:

- ▶ Among guide/co-guides and their representative organizations, no conflicts for funding agency, if had applied for funding.
- ▶ Authorship related: considerable contributions from all investigators.

5.2 DESIGN OF THE STUDY:

It is a randomised two groups (yoga and control group), intervention study with pre and post assessments. Random sampling technique was used. SMET program was used as an intervention. Yoga group would undergo SMET yoga program and Control group would be engaged in their routine work and they would undergo SMET program after the study. It would be a waitlist control group.



5.2.1 DURATION OF THE STUDY:

3 months, one hour session per day. Employees were asked to practice the same at home for the remaining days of the week by listening to the instructions which were recorded by them. They self-reported their home practice.

5.3 VARIABLES STUDIED:

Independent Variable:

Occupational Stress

Dependent Variables:

1. Organisational Citizenship Behaviour
2. Positive Affectivity
3. Negative affectivity

5.3.1 OPERATIONAL DEFINITIONS OF THE VARIABLES:

Organisational Citizenship Behaviour:

Individual behaviour that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization - Dennis Organ (1988).

Positive Affectivity:

Positive Affectivity is a personality characteristic that describes how humans experience positive emotions while interacting with others and with their surroundings (Watson et al, 1988).

Negative affectivity:

Negative Affect is a dimension of subjective distress that includes a variety of adverse mood states and unpleasant engagement (Watson et al., 1988).

Occupational Stress:

A non-specific, conventional and phylogenetic based response pattern, the primary function of which is to prepare the body for physical activity such as resistance or flight called Eustress. If, however, the subject lacks the means of restoring either to fight or flight

i. e. of relieving the stress reaction, stress gives rise to Distress which manifests itself in the form of psychosomatic symptoms or disorders - Selye and Levi.

Demographic Variables like Age, Gender, Qualification, Designation, Job-tenure of participants were recorded.

5.3.2 RESEARCH INSTRUMENTS USED:

- 1) Organisational Citizenship Behaviour scale** - developed by Dr. Arti Bakhshi & Kuldeep Kumar from University of Jammu in 2009 - Consists of 30 attributes grouped into 5 dimensions. The responses are compared with Likert type rating scale (1- Never, 2 - Rarely, 3 – Sometimes, 4 – Frequently and 5 – Always). The minimum and maximum possible scores on this scale range from 30 to 150. High scores on this scale indicate high organizational citizenship behaviour, and low scores on this scale indicate low organizational citizenship behaviour. This scale measures organizational citizenship behaviour on five different dimensions, however for the purpose of the present study, the total score on all the 30 items was taken as the measure of organizational citizenship behaviour. This scale has six negatively worded items. The authors of this scale have obtained satisfactory internal consistency-reliability coefficients, and have also demonstrated construct validity of the scale.

Scale Format:

Item Generation:

To develop items to measure OCB, several specific examples of such behaviours were generated taking cues from existing scales and literature of OCB and OCP. Thus, five managers (commercial banks), four doctors (medical college), two principals (college), nine employees (three from each organisation) participated in several group discussions to generate items for the purpose of developing scale for measuring OCB. The items generated by these practitioners were combined with those generated from review of literature and existing scales. While editing the items the utmost care was taken to avoid double-barreled questions, non-monotonic questions and question using any vague words or phrases.

Assessment of Content Validity:

To assess the content validity of the combined pool of items generated, these items were presented to 10 judges (consisting of supervisors, employees, faculty members and Ph.D. students in advance stages of their research) along with the definition of OCB. These judges were therefore requested to rate the items on the following scale depending on the degree to which they believe that the given item belongs to the construct of Organisational Citizenship Behaviour.

- Completely disagree (CDA): If the item does not at all belong to the construct of Organisational Citizenship Behaviour.
- Slightly agree (SLA): If the item seems to belong to the construct of Organisational Citizenship Behaviour but the agreement is weak.
- Moderately agree (MA): If the item seems to belong to the construct of Organisational Citizenship Behaviour but the agreement is somewhat stronger.
- Strongly agree (STA): If you strongly agree that the item belong to the construct of Organisational Citizenship Behaviour.
- Totally agree (TA): If the item totally belongs to the construct of Organisational Citizenship Behaviour.

On the basis of the above responses, the items receiving more than three complete disagreements were discarded. It means only those items were included in which 70 per cent of the judges (7 out of 10) were of the opinion that the item belonged to the construct of OCB to some degree.

Scale Development:

Scale development consists of collecting data with the use of a preliminary form and analysing the data in order to select items for a more final form. It is always useful to conduct a small N pilot study before the main data collection effort. So the scale was administered to 20 doctors to check out such nuts and bolts points as how easily the scale instructions are followed, how well the scale format functions, how long the scale takes to complete, and especially, how appropriate the scale items are for the target respondent population. As a rule, the development sample should be representative of the target

respondent population. After this first administration of the test, minor modifications were made in the scale. Only five items were reworded to make their meaning more clear.

Item-total Correlation:

It is a broader question since it is based on how one item relates to other items that are expected to be measuring a common construct by finding the correlation of an item to a score (sum) of the other items. Low correlations mean the item is not a coherent part of a set of similar questions. Selection of closely knit or highly correlated items with the total score ensures better reliability for the proposed scale. The item-total correlation found using SPSS 12 showed that three items do not correlate significantly with the total score, thus these three items were excluded — thus leaving remaining items for further evaluation.

Exploratory Factor Analysis:

To explore the latent dimensions underlying the remaining items these items were factor analysed using principal component method. Since the initial factor structure was not clean, the factors were rotated using orthogonal rotation (Varimax) - Rotated Component Matrix. Six factors having Eigen value of more than 1 emerged explaining 58.04 of the total variance.

However, considering the sample size of 98, a loading of 0.50 was considered significant. Items which did not load significantly on any of the factors, were deleted from the scale.

Items loading significantly on their respective factors:

It measures the five variables through different items in the following pattern:

Factor 1 - Conscientiousness is measured by items 1, 7, 10, 13, 17, 19, 20, 21 and 22.

Factor 2 - Courtesy measured by Items 4, 8, 16, 18, 23 and 28.

Factor 3 – Sportsmanship is measured by Items 3, 6, 24, 27, 29, 30. All the items under this factor are negative items.

Factor 4 – Helping co-worker is measured by 2, 5, 9, 11 and 25.

Factor 5 – civic virtue can be measured by 12, 14, 15 and 26.

Reliability Analysis The reliability analysis has been done using SPSS version 16.0

The reliability of the whole scale was found out to be 0.82. Table provides the reliability (Chronbach alpha) of the various subscales developed.

Reliability of Various Subscales

Subscale	Label	Reliability
F1	Conscientiousness	0.71
F2	courtesy	0.75
F3	Sportsmanship	0.81
F4	Helping co-worker	0.91
F5	Group activity participation	0.79

Reliability Statistics: Cronbach's Alpha = .702 and No. of Items = 30

The value of Cronbach's Alpha for the item set is 0.702 which is greater than 0.7 and is usually considered to be good.

To summarise, the factor structure of OCB scale obtained in the analysis is appealing. First, the study demonstrates that the concepts of organisational citizenship behaviour translate to the Indian context, with suitable (and predictable) amendments. Second, the correlated structure of the components of OCB is confirmed. The findings imply that the concept of OCB is applicable for the study of individual's behaviours in a very different cultural context using a large sample across a variety of industries.

- 2) **PANAS scale** - developed by Watson, Clark, & Tellegen, (1988) - measures 10 specific positive and 10 specific negative affects each at two different levels. It uses a 5-point scale (1 = very slightly or not at all, 5 = extremely) to indicate the extent of generally feeling the respective mood state. The Authors calculated Cronbach á coefficients in different samples range from 0.90 to 0.96 for PA and from 0.84 to 0.87 for NA.

Watson and Tellegen (1985) have summarized the relevant evidence and presented a basic, consensual two-factor model.

Much of our previous mood research has been concerned with identifying these dominant dimensions of affect and clarifying their nature (Clark & Watson, 1986, 1988;

Tellegen, 1985; Watson, in press; Watson & Clark, 1984; Watson et al., 1984; Watson & Tellegen, 1985; Zevon & Tellegen, 1982).

Our greatest concern was to select terms that were relatively pure markers of either PA or NA; that is, terms that had a substantial loading on one factor but a near-zero loading on the other. The categories were identified through a principal-components analysis of content sortings of a large sample of descriptors and provide a comprehensive sample of the affective lexicon. From this list we selected those terms that had an average loading of .40 or greater on the relevant factor across both the R- and P-analyses reported in Zevon & Tellegen (1982).

Preliminary reliability analyses convinced us that 10 terms were sufficient for the PANAS PA scale; we therefore dropped 2 terms (delighted and healthy) that had relatively high secondary loadings on NA. This yielded the final list of 10 descriptors for the PA scale: attentive, interested, alert, excited, enthusiastic, inspired, proud, determined, strong and active.

We then settled on a final 10- item version that consisted of 2 terms from each of the other five triads: distressed, upset (distressed); hostile, irritable (angry); scared, afraid (fearful); ashamed, guilty (guilty); and nervous, jittery (jittery).

Reliability and Validity of the PANAS Scales:

Table 1 - Preliminary analysis with a test population, the researchers arrived at 10 terms for each of the two scales, as follows:

Positive affect	Negative affect
Attentive	Hostile
Active	Irritable
Alert	Ashamed
Excited	Guilty
Enthusiastic	Distressed
Determined	Upset

Inspired	Scared
Proud	Afraid
Interested	Jittery
Strong	Nervous

Table 2 - Internal Consistency Reliabilities (Coefficient Alpha) and Scale Inter-correlations:

Alpha reliabilities				
Time instructions	n	PANAS PA scale	PANAS NA scale	PA-NA Inter-correlation
Moment	660	.89	.85	-.15
Today	657	.90	.87	-.12
Past few days	1,002	.88	.85	-.22
Past few weeks	586	.87	.87	-.22
Year	649	.86	.84	-.23
General	663	.88	.87	-.17

Note. PANAS = Positive and Negative Affect Schedule. PA = Positive Affect. NA = Negative Affect.

The alpha reliabilities of the PANAS PA and NA scales were .86 and .87, respectively, and the correlation between the scales was —.09

Table 3 - Test-Retest Reliabilities of the Positive and Negative Affect Schedule (PANAS) Scales (8 - Week Retest Interval):

Time Instructions	PANAS PA scale	PANAS NA scale
Moment	.54*	.45"
Today	.47"	.39"
Past few days	.47'	.42"

Past week	.48 ^{''}	.47 ^{''}
Past few weeks	.58 ^{''}	.48 ^{''}
Year	.63 ^{'''}	.60 ^{'''}
General	.68 [']	.71 [']

Note. n= 101. Coefficients not sharing the same superscript are different at $p < .05$ (two-tailed, Bonferroni corrected for multiple comparisons). PA = Positive Affect. NA = Negative Affect.

Information regarding the development of brief scales to measure the two primary dimensions of mood— Positive and Negative Affect have been presented. Whereas existing scales were unreliable, had poor convergent or discriminant properties, or were cumbersome in length, these 10-item scales were internally consistent and had excellent convergent and discriminant correlations with lengthier measures of the underlying mood factors. They also demonstrate appropriate stability over a 2-month time period. When used with short-term instructions (e.g., right now or today), they are sensitive to fluctuations in mood, whereas they exhibit trait like stability when longer-term instructions are used (e.g., past year or general). The scales correlate at predicted levels with measures of related constructs and show the same pattern of relations with external variables that have been seen in other studies. For example, the PA scale (but not the NA scale) is related to social activity and shows significant diurnal variation, whereas the NA scale (but not the PA scale) is significantly related to perceived stress and shows no circadian pattern. Thus, we offer the Positive and Negative Affect Schedule as a reliable, valid, and efficient means for measuring these two important dimensions of mood.

- 3) Occupational Stress Index (OSI)** - in the Indian context developed by (Srivastava & Singh, 1981) consists of 46 statements with five alternative responses e.g., 5 for strongly agree, 4 for mildly agree 3 for agree, 2 for disagree and 1 for strongly disagree. Total score on this scale is considered for the assessment of occupational stress. More the score on this scale indicates more stress and vice-versa.

The English version of the OSI was originally developed by Srivastava and Singh (1984) at Banaras Hindu University, Uttar Pradesh (UP), India. The scale purports to measure the extent of stress which employees perceive from various constituents and conditions of their job. The scale may be administered to the employees of every level operating in context of industries or other non-production organizations. The scale consists of 46 items, comprising 28 'true-keyed' and 18 'false-keyed' and each of which is rated on a five-point scale. The items are related to almost all relevant components of job life which cause stress in some way or other. The account of items constituting various sub-scales along with their indices of internal consistency is shown in Table.

The reliability of the scale was measured through split half (odd-even) method and the Cronbach's alpha coefficient for the scales as a whole was found to be 0.935 and 0.90, respectively. The reliability of 12 subscales was also computed through split-half method, and all the sub-scales were found rightly reliable. The validity of the OSI was determined by computing coefficient of correlation (r value) between the scores of OSI and various measures of job attitudes and job behaviour. Highly significant positive correlation was found between the scores on the OSI and the scores on measures of such job related attitudinal and motivational and personality variables.

Table: Occupational stressors and their indices.

Sub-scales (occupational stressors)	Serial number of the items in the schedule	Range of rabis
Role Overload	1, 13, 25, 36, 44, 46	.30-.46
Role ambiguity	2, 14*, 26, 37	.20-.48
Role Conflict	3, 15*, 27, 38*, 45	.36-.53
Unreasonable group & Political pressures	4, 16, 28, 39	.21-.52
Responsibility for persons	5, 17, 29	.30-.57
Under participation	6*, 18*, 30*, 40*	.55-.73
Powerlessness	7*, 19*, 31*	.44-.62
Poor peer Relations	8*, 20, 32*, 41*	.24-.49
Intrinsic impoverishment	9, 21*, 33*, 42	.32-.64
Low status	10*, 22*, 34	.48-.63

Strenuous working conditions	12, 24, 35, 43*	.40–.62
Unprofitability	11, 23	.48–.51
* False-keyed items		

Depending on the ‘true-keyed’ or ‘false-keyed’ nature of the items, the following two different patterns of scoring were adopted:

Categories of response	Scores	
	‘True-keyed’ items	‘False-keyed’ items
Never/strongly disagree	1	5
Seldom/disagree	2	4
Sometimes/undecided	3	3
Mostly/agree	4	2
Always/strongly agree	5	1

For ascertaining the validity and reliability, 70 employees of different cadres were randomly selected from two industries and two non-productive organizations of ‘Rajshahi City Corporation’. In order to have a comparison of the original and adapted form of the test, 30 educated employees were selected from the same industries. The procedure used in the study involved three steps. First, the English version of the scale was translated into Bengali and was checked and rechecked by the authors.

Second, to ascertain the appropriateness of the translation, four judges (two from the Department of English and two from the Department of Bengali, RU), were requested to examine carefully whether each item of both Bengali and English version conveys the same idea. Final form of the Bengali version was obtained by incorporating the suggestions offered by the judges. Then the Bengali version of the scale was supplied to three judges (teachers of the Psychology Department, RU) with a request to detect the items that appeared to be inappropriate for our culture. But the judges detected no such items. Third, in order to determine the test-retest reliability (Annestasy and Susana 1997) of the newly constructed Bengali version of the test, it was administered to the subjects following standard procedure on two occasions at an interval of one month. The consistency between two sets of scores was computed by product moment

correlation method (Garrett 1966). Finally, the original English version and the translated Bengali version of the scale were both administered on the same subjects at an interval of one month and co-efficient of correlation between the two sets of scores were computed.

The correlation co-efficient ($r = 0.87$) computed for assessing the test-retest reliability of the adapted OSI scale was highly significant ($t = 14.88$; correlation co-efficient ($r = 0.87$) computed for assessing the test-retest reliability of the adapted OSI scale was highly significant ($t = 14.88$; $P < 0.01$). Like-wise the correlation co-efficient computed for testing the resemblance between the original and adapted version ($r = 0.82$; $N = 30$) was also found significant ($t = 4.36$; $P < 0.01$). Since the main purpose of the study was to adapt an English version of OSI in Bengali in order to make it suitable for our culture, the results of the present investigation reveal that the translated version is worth using for such studies in Bangladesh.

5.4 INTERVENTION:

SMET YOGA MODULE:

Components:

- (a) Theory sessions - Lectures
- (b) Practice sessions - Cyclic Meditation (CM) which includes *Āsanas*, Relaxation techniques and Meditation.

(a) Theory sessions - topics:

1. Concept of Stress
2. Growth of Executives
3. Group Dynamics
4. Introduction to SMET
5. Recognition of problem is half solution
6. S-VYASA movement
7. Researches on SMET
8. Benefits and Advantages of going through SMET program

(b) Practical session - Cyclic Meditation - CM:

Cyclic Meditation is a practice, built on the principle of alternate Stimulation and Relaxation. This technique was developed by Dr. H. R. Nagendra of S-VYASA university, Bengaluru. It is a simple and effective technique to relieve stress and induce deep sleep and relaxation. There are proven results that, CM can reduce the number of hours needed in order to feel rejuvenated.

Cyclic Meditation involves the following steps:

Step 1. Lie down in śavāsana and chant Opening Prayer

लयेसंबोधयेच्चित्तंविक्षिप्तंशमयेत्पुनः।
सकषायंविजानीयात्समप्राप्तंनचालयेत्॥

माण्डुक्योपनिशत् कारिक ॥ ३-४४ ॥

layesaṃbodhayeccittaṃ vikṣiptaṃśamayetpunah |

sakaṣāyaṃvijānīyātsamaprāptaṃnacālayet ||

māṇḍukyopaniśat kārika || 3-44 ||

Meaning: If the mind becomes inactive in a state of oblivion awaken it again. If it is distracted, bring it back to the state of tranquility. (In the intermediary state) know the mind containing within it desires in potential form. If the mind has attained the state of equilibrium, then do not disturb it again.

Stimulate & awaken the sleeping mind, calm down the distractions, recognize the innate stagnations & stay in steadiness without disturbing it.

Step 2 (a) Perform IRT - Instant Relaxation Technique

(b) Coming up to *Tāḍāsanasthiti* (standing position) – Linear awareness

(c) Relaxation and centering in *Tāḍāsana*

Step 3 Standing asana - Perform *Ardhakaṭicakrāsana* (first right and then left)

(a) Coming down to *śavāsana* from right side

Step 4 Perform QRT - Quick Relaxation Technique

Step 5 Sitting *āsanas* - Sit up and relax in *Danḍāsana* (sitting with leg stretching)

(a) Perform *Vajrāsana*

- (b) Perform *Sasankāsana* and return to *Vajrāsana*
- (c) Perform *Ardha-uśtrāsana* or *Uśtrāsana*
- (d) Relax in leg stretching sitting position
- (e) Go straight back to *śavāsana*

Step 6 Perform DRT – Deep Relaxation Technique

- (a) Come up straight and assume any sitting position -preferably *Vajrāsana*
- (b) Chant Closing Prayer “*Om sarve bhavantu sukhinah*”

ॐ सर्वे भवन्तु सुखिनः।सर्वे सन्तु निरामयाः ।
 सर्वे भद्राणि पश्यन्तु ।मा कश्चिद्दुःखभाग्भवेत् ।
 ॐ शान्तिः शान्तिः शान्तिः ॥

*sarve bhavantu sukhinah, sarve santu nirāmayāh, sarve bhadrāṇi
 paśyantu, mā kaścit dukkha bhāgbhavet;
 om śāntih śāntih śāntihi ॥*

Meaning:

May all become happy, May none fall ill; May all see auspiciousness everywhere,
 May none ever feel sorrow, Om peace peace peace.

5.5 DATA EXTRACTION:

- (i) PANAS scale - All questions were rated on a 5-point scale of 0-4.
 (0=not at all, 1=a little, 2=moderately, 3=quite a bit, 4=extremely)
- (ii) 5-point scale for occupational stress of 5 to 1(5 for strongly agree, 4 for mildly agree
 3 for agree, 2 for disagree and 1 for strongly disagree). Total score on this scale is
 considered for the assessment of occupational stress.
- (iii) The responses were compared with Likert type rating scale (1- Never, 2 - Rarely, 3 –
 Sometimes, 4 – Frequently and 5 – Always) for Organisational Citizenship Behaviour
 scale.

5.6 DATA ANALYSIS:

The data were collected using questionnaires. All statistical analyses were performed using the Statistical Package for Social Sciences (SPSS - version 25).

As we found that the data was not normally distributed, Non Parametric Tests were conducted to analyse the results.

- Friedman's Two way Analysis of Variance by Ranks
- Wilcoxon Signed Ranks Test - Pre-Post analysis within groups
- Wilcoxon Signed Ranks Test - Pre-Post analysis within genders (male and female)
- Mann-Whitney U Test for Independent samples for between groups
- Mann-Whitney U Test for Independent samples for between genders (male and female)
- Pearson Correlation Analysis for experimental and control groups
- Pearson Correlation Analysis for – male gender
- Pearson Correlation Analysis for – female gender

were conducted for statistical analysis.